BRITISH COLUMBIA

# THE BRITISH COLUMBIA CORONERS' SERVICE

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BRITISH COLUMBIA

February 2002

Honourable Rich Coleman
Minister of Public Safety and Solicitor General
British Columbia

Dear Sir:

I have the honour to submit the 5th Annual Report of the Office of the Chief Coroner for the year beginning January 1, 2000 and ending December 31, 2000.

This report is the public record outlining the activities of the Coroners Service in fulfilling its mandate to investigate sudden and unexpected deaths in the province and highlighting its efforts to protect public safety by preventing future deaths.

Terry P. Smith
Chief Coroner
Province of British Columbia

**Ministry of Public Safety & Solicitor General**

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# The British Columbia Coroners' Service Annual Report 2000

## Table of Contents


Mandate ..... 3
Historic Development ..... 3
Organization Structure ..... 3
Responsibilities ..... 3

Investigative ..... 4
- Pathology ..... 4
- Toxicology ..... 5
- Forensic Identification Unit ..... 5
- Behavioural Investigations ..... 5
- Medical Investigations ..... 5

Judicial ..... 7
- Inquiry ..... 7
- Inquest ..... 7

Preventative ..... 8

Coroner's Recommendations ..... 8
- Research ..... 10
- Coroners' Act and Notification Requirement ..... 11
- New Legislative Amendments ..... 11
- Statistical Summary of Deaths ..... 12
- Classifications of Death ..... 13

Caseload Statistics ..... 14
Accidental Deaths ..... 15
Accidental Motor Vehicle Accidents ..... 16
Child Death Review (Ages 0–18 yrs) ..... 17
Sudden Infant Death Syndrome ..... 18
Suicides ..... 19
Illicit Drug Deaths ..... 21
Inquest Statistics ..... 22

# THE BRITISH COLUMBIA CORONERS SERVICE

## Mandate

The British Columbia Coroners Service is responsible by statute (*Coroners Act*) for the investigation and certification of all unnatural, sudden and unexpected or unexplained or unattended deaths. The Coroners' Service is a fact-finding, not a fault-finding agency. It makes recommendations to improve public safety and prevent deaths in similar circumstances.

## Historic Development

The office of the coroner is one of the oldest common law institutions, with references dating as far back as the time of Saxon King Alfred in 925 A.D. The first detailed statute concerning coroners' was the Statute of Westminster of 1275. The coroner was known as a "Keeper of the pleas of the Crown" or "Crowner" from which the term "coroner" evolved.

The former utility of the coroner as a protector of Crown revenue, or as an agency for bringing suspects to trial, is no longer a consideration. However, what does remain constant in the face of this evolution is the continuing concern with the fact of death and the unchanged interest of the public in the protection of its members. The death of a member of society is a public fact. The circumstances that surrounded that death and whether it could have been avoided are matters of interest to all members of the community. In this sense, the coroner exists to provide a truly public service, both individually and collectively.

Each province and territory in Canada operates its own sudden death inquiry system. Coroners are governed by the B.C. *Coroners Act* proclaimed in 1979.

## Organizational Structure

The Coroners' Service is an independent agency, falling under the Ministry of Public Safety and Solicitor General for administrative and budget purposes. The Chief Coroner, located in Burnaby, supervises the coroners' Service. There are eight regional offices, each headed by a Regional coroner in Victoria, Nanaimo, Vancouver, Surrey, Abbotsford, Kamloops, Kelowna and Prince George.

In 2000, the Coroners' Service had 38 full-time employees of whom 21 functioned as full-time coroners'. There were 120 appointed fee-for-Service coroners' who provided Services to local and sometimes remote communities.

## Responsibilities

The responsibilities and functions of the B.C. Coroners' Service include:

1. Ascertaining and clarifying the facts of all unexpected and unnatural deaths in B.C. to determine the identity of the deceased, and how, when, where and by what means the deceased died.

2. Ensuring that no death is overlooked, concealed or ignored.

3. Producing a judicial, public document either a Judgement of Inquiry or a verdict at coroner's inquest that reports on the findings of the coroner's investigation, These documents form the official record of the

identity of the deceased and how, when and where he or she died. The medical cause of death and classification are noted. This serves the general public interest and adds to the sum of knowledge in the fields of forensic science, epidemiology, public safety and public health.

4. Making recommendations, where appropriate and feasible, to both public and private agencies so that a similar death is less likely to occur in the future. The prevention of death forms a critical part of the overall mandate of the B.C. Coroners' Service.

5. Conducting Inquests (quasi-judicial court proceedings) when mandated by the *Coroner's Act* or when there is a strong public interest in the circumstances of the death or potential for prevention of death in similar future circumstances. An inquest publicly presents all evidence relating to the death, focuses community attention and often makes recommendations which may help prevent future deaths.

6. Collecting death information, statistical analysis, and research materials.

7. Developing in-depth position papers about frequently recurring incidents in an effort to prevent further deaths from a particular specific cause or failing.

The Coroner's Service has three major program areas, investigative, judicial and preventative.

# INVESTIGATIVE

Coroners require a careful examination of the circumstances leading up to the death to understand why an individual died. Pathologists, toxicologists, forensic investigators, behaviour analysts and medical investigators may be used to provide assistance.

## Pathology

In deciding whether or not an autopsy is required, the coroner must deem it necessary in order to determine the cause and manner of death. The autopsy must be considered to be in the public interest. In general, if a reasonable and probable cause can be deduced on the basis of the decedent's medical history, the circumstances surrounding a death and a careful examination of the body, an autopsy may not be necessary for the coroner's mandate.

The forensic autopsy is a specialized autopsy. There is a great difference between a hospital autopsy and a forensic autopsy. Hospital autopsies are directed towards substantiating the accuracy of a diagnosis and therapy instituted during the course of an illness as well as determining the immediate cause of death.

The coroner authorizes a forensic, or medico-legal autopsy to determine the cause of death where it cannot otherwise be determined; to collect evidence from the body, to document findings useful in clarifying time and circumstances of death; and finally, to obtain evidence aiding in the identification of the body.

In British Columbia the Coroners' Service retains the services of pathologists who conduct medico-legal autopsies on a fee-for-service basis.

In 2000, the Coroners' Service ordered 2748 autopsies, representing 42 per cent of all cases reported.

## Toxicology

Coroners authorize toxicology testing when it is required to establish or confirm the cause and manner of death. For the most part, toxicology testing is provided on a fee-for-service basis at the Provincial Toxicology Centre, an accredited laboratory, located at Riverview Hospital in Port Coquitlam, B.C. In cases also under criminal

investigation, the RCMP Crime Laboratory conducts toxicology testing. Some toxicology testing is performed at regional hospitals. The Coroners Service ordered 2166 toxicology tests in 2000.

## Forensic Identification Unit

This unit provides adhoc, province-wide support to investigative coroners who require assistance with recovery of human remains that have been extensively compromised, difficult identifications, and the investigation of historic unidentified cases. The Forensic Unit co-ordinates forensic services in the areas of: archaeology, botany, entomology, anthropology, osteology, odontology, radiology, and DNA.

## Behavioural Investigations

The Chief Coroner also retains behaviour analysts with backgrounds in psychology and social work to assist coroners in cases where it is difficult to determine whether or not the incident was a suicide, accident or homicide. Behaviour analysts can also help in answering the 'why' in known suicide cases. In 2000, approximately 50 cases were referred to behavioural investigations.

## Medical Investigations

When coroners' cases involve complex medical facts, registered nurses are assigned to review medical charts and interview persons who cared for the deceased. They establish a chronology of events to identify concerns, and make recommendations that may prevent future deaths. The medical investigator prepares a specialized summary investigative report for the coroner. In 2000, 104 coroners' cases were referred to medical investigations.

There were several significant medical investigations in 2000.

**Death Due to Meningococcal Septicemia Due to Exposure to Conjunctivitis**

A female subject had become ill with flu like symptoms and her condition rapidly deteriorated in spite of aggressive medical intervention. The subject died the following day from meningococcal septicemia. A few months earlier, the subject's son had been diagnosed with meningococcal conjunctivitis which was treated with topical antibiotic ointment. Public health protocol at the time did not recommend systematic antibiotic treatment or chemoprophylaxis (prevention of disease by antibiotics) for individuals in close contact with this particular form of infection. Medical investigation into the death uncovered international literature that highlighted a threat of infection from individuals with primary meningococcal conjunctivitis and meningococcal pneumonia. As a result of this case, the coroner recommended that all disease caused by neisseria meningitides should be reported by law to public health officials. The coroner also sent a recommendation to the College of Physicians and Surgeons of BC for educational purposes.

**Medical Investigation into Shooting Death of Patient**

A medical investigation was conducted into a police shooting that occurred in an Emergency Room of a hospital. A man suffering from depression and anxiety who had recently been turned down for a work related insurance claim came to the Emergency Room. During an interview with a psychiatrist, he became increasingly agitated, threatened the psychiatrist armed himself with a scissors and an oxygen tank and locked himself in a room. The RCMP were summoned. The officers confronted the man and demanded that he come out of the room disarmed. The man refused to comply, attacked one of the officers with the scissors, and was shot. An inquest was held and a number of recommendations were made by the jury to

address safety issues/protocols at the hospital and the lack of treatment and facilities in the psychiatric areas of the ER.

**Hospital Restraint/Bed Rail**

A medical investigation was conducted into the death of a woman who died from of asphyxia after she had slipped between the mattress and bed rail, while a patient at an Extended Care Facility. A medical investigation revealed that the type of bed (Dominion Metal Ware Industries Model 10-090) was a significant factor in the death. Although there had been two hospital deaths in BC related to similar hospital bed rails in 1986, a nation wide alert had not been circulated. The coroner recommended that the Director of the Medical Devices Bureau determine why an alert was not issued following the previous deaths. The coroner also asked the Director to make sure appropriate and timely alerts are circulated in the future.

**Psychiatric Suicide Death after Release From Emergency Room (ER)**

A medical investigation was conducted into the death of a male who jumped from a bridge shortly after being released from a hospital ER where he was treated for threatening suicide. The medical investigation revealed that the ER personnel based their decision to release the man solely on their observations of him They did not consult with other caregivers to gain a fuller understanding of the subject's mental health before they discharged him. Recommendations were made to address this issue. The coroner recommended to the Health Region that the assessment of a mentally disordered person in the Emergency Department include information from caregivers, family or significant others and that a Scale of Depression Test be available in the E.R. to help staff decide whether psychiatric patients require further psychiatric assessment.

**Deaths Related to Delay in Delivery of Trauma Care**

There were several medical investigations conducted into deaths related to delay in the delivery of trauma care. In the first case, a male subject died as a result of traumatic injuries sustained in a motor scooter accident. Medical investigation revealed that the absence of sophisticated trauma care reduced his chance of recovery. For example, the ER physician in the rural facility was not trained in Advanced Cardiac Life Support and there were no trauma protocols for management and transfer of trauma patients.

In the second case, a male subject died of hemorrhagic shock as a result of bleeding esophageal varices. The subject was in need of urgent sclerotherapy banding which could not be performed by the General Surgeon at the rural facility. Because no beds were available seven hours lapsed prior to the patient's transfer to a facility with a qualified surgeon.

In the third case, a male subject died of a head injury. Lack of available beds caused a delay of 10 hours before he was transferred to receive necessary neurosugical intervention. A helipad site at the rural hospital facility would have prevented delay.

In the fourth case, a male subject died as a result of head injuries sustained in a motor vehicle accident. When paramedics arrived at the scene, the subject was unconscious and breathing raggedly. He was transported to a rural hospital for neurosurgery. A shortage of beds caused a delay of six hours before transfer. The subject died 10 minutes after arrival.

In a fifth case, a female subject who had a tracheostomy tube inserted because of complicated asthma developed subcutaneous emphysema, pneumomediastinum and atelectasis (collapsed lung) in the right lung base. A chest tube was inserted. Doctors were unable to transfer her to a facility for a higher level of care. The subject died as a result of complications from the tracheostomy tube leak.

# JUDICIAL

A coroner's investigations may be concluded by one of two procedures: Judgement of Inquiry or Inquest.

## Inquiry

The most common process is for the coroner to conduct an Inquiry and prepare a report for the Chief Coroner as provided by Section 20 of the coroners' Act. A coroner's inquiry is a quasi-judicial process conducted without a jury. The coroner interviews witnesses, and reviews all investigative documents gathered from other agencies to determine the facts. The report outlines the facts of the death, determines the medical cause and classifies the death as natural, accidental, suicide, homicide or undetermined. Recommendations can be made to specific individuals and/or agencies, suggesting changes or improvements so that similar deaths or injuries can be prevented.

## Inquest

An inquest is a quasi-judicial hearing held in an open forum where witnesses are subpoenaed to testify under oath before a jury of five persons. An inquest is not a forum to resolve civil disputes, nor to conduct prosecutions. An inquest is not a trial and a coroner is not a judge. The proceedings are investigational as opposed to accusatory or adversarial. There is no "accused" or "defendant" and no "parties" or "lis". There are several reasons to hold an inquest.

- Section 10 of the Act makes it mandatory to hold inquests into deaths of persons while in police custody.

- Section 18 provides for the calling of an inquest when the coroner determines it to be "necessary".

- Section 21 provides that a coroner conducting an inquiry may, for reasons specified in Section 21, change the inquiry to an inquest and summon a jury for that purpose.

Over time these latter two sections have been generally interpreted to call for an inquest because:

1. There are general public concerns regarding the circumstances;
2. A witness is refusing to provide evidence to a coroner conducting an inquiry;
3. Agencies, institutions or interest groups are legitimately pointing out concerns worthy of public attention.

The Attorney General may also, under special circumstances, direct an inquest be held as provided in Section 23 of the *Coroners' Act*.

Inquest proceedings begin with the coroner explaining the mandate to the jury and the jury's responsibilities under the *Coroners' Act*. The coroner reviews applicable sections of the *Coroners' Act* for the information of the jury and gives a short summary of facts relating to the death. Witnesses are then called and examined by coroner's counsel, the coroner, members of the jury and persons "granted standing". Persons are given "standing" if their interests may be affected by evidence called. Persons with standing, or their representative, may participate fully in the inquest by asking questions and calling evidence. Once all the evidence has been given, the coroner adjourns the court and prepares a summation and overview of the evidence presented. The hearing is then reconvened and the summation given to the jury. The jury prepares its verdict which may be unanimous or by majority. The verdict and findings must not make any finding of legal responsibility or express any conclusion of law.

The *Coroners' Act* provides no power to order change. The coroner, however, submits the jury's recommendations to the Chief Coroner for dissemination to appropriate persons, agencies and ministries of governments. The jury recommendations must be lawful and are expected to be relevant and reasonable.

## PREVENTATIVE

The Chief Coroner is responsible for bringing the findings and recommendations from coroner's investigations and inquest juries to the attention of appropriate individuals, agencies, the public, and ministries of government to assist in improving public safety and for preventing similar deaths in the future.

The Coroners' Service has no statutory authority to order change or to ensure that its recommendations will be carried out. However, the Coroners' Service is generally successful in having most of its recommendations considered and acted upon. In 2000, the Coroners' Service had an 80% response rate to its recommendations, with 66% of these responses being positive. As a direct result of coroner and jury recommendations, policies and procedures have been altered, more monitoring has occurred, and greater care and attention paid to conditions which might cause injury or death in the future.

Through judicial recommendations, public awareness, statistical analysis and research, the preventative role is affected.

## CORONER'S RECOMMENDATIONS

In 2000, BC Coroners sent approximately 3400 recommendations from inquests and Coroner's Inquiries to agencies and ministries of government addressing a variety of public safety issues. Some examples are highlighted below:

**Air Transportation**

In 2000, a coroner's inquiry was held into the death of a pilot who died while attempting to swim to shore after his Cessna 172 aircraft made an emergency landing on water. The aircraft had no flotation device. The coroner recommended an amendment to Canadian Aviation Regulations to require all aircraft to be supplied with a flotation device for each occupant, regardless of the type of craft.

**Motor Vehicle/Road Safety**

Coroner's recommendations have addressed public safety issues involving:

- Highway/road design
- The installation of median barriers
- Signs, crosswalks, and no-post guard rails.
- Recommendations requesting changes to legislation to improve road safety include improvements to the Graduated Licensing Program for new drivers
- Amendments to child restraint legislation and amendments to motorcycle helmet legislation in B.C.
- Recommendations have also been put forward with regards to road safety education
- Public awareness of driving in winter driving conditions and road safety education in school curricula.
- Information to new immigrants on the use of child restraints.

**Product Safety**

Coroners' investigations have produced many recommendations leading to the safe use of a variety of products such as cribs, hip waders, belly boats, all-terrain vehicles, and old hospital beds.

In 2000, a coroner's inquiry was held into the death of a female who died after being caught under an overhead garage door of her condominium complex.

The coroner found that the subject had opened the garage door using a switch located inside the garage and then attempted to get back in once the door was closing. The door was in good working condition. The coroner made recommendations that the National Building Code Registry be reviewed so that that any type of industrial and commercial automatic closing overhead door or gate system should have a minimum of two safety systems.

**Water Transport**

Coroner's recommendations have addressed a variety of safety issues in marine safety. A recent coroner's inquiry was held into the death of a male on a bulk carrier that was anchored and awaiting berth at a port. The subject was an occupant of a lifeboat which fell and overturned during a drill.

Due to problems with the setting of the release mechanism, the lifeboat fell into the water, landing on its side. Five of the other crewmembers in the lifeboat were injured. The coroner forwarded recommendations to the Transportation Safety Board of Canada and the International Maritime Organization. Both agencies have taken positive steps to ensure that lifeboat release incidents do not occur.

**Recreational (Outdoor Activities)**

Many coroner's recommendations have been made in an effort to improve public safety in recreational activities like river rafting, swimming, skiing, snowboarding, and boating. One coroner's inquiry was held into the death of a female who died from a fall from a cliff. The coroner recommended that signs be posted warning hikers of the steep cliffs overlooking the seashore. The city involved has acted on the coroner's recommendations and has taken additional steps to ensure safety of hikers.

In another incident, a coroner's inquiry was held into the death of a male who drowned after diving from a cliff located at a lake. The coroner pointed out that this was the fifth diving fatality at this site and there have also been numerous non-fatal injuries. The coroner recommended that a guard rail be installed around the dangerous areas of this size and to erect warning signs. The Ministry of Transportation and Highways has acted on the coroner's recommendations.

**Industrial (Construction)**

Coroners' inquires investigating workplace fatalities have made many recommendations aimed at preventing workplace injury and death in construction, logging, scuba diving and fishing.

In 2000, a coroner put forth recommendations after a male fell from a height while at work on a construction site. The man was caulking window frames on the exterior of a building and was using a boatswain's (bosun's) chair. When the subject stepped off a 14th floor level balcony and into the bosun's chair, he lost his balance and fell to the ground.

The coroner's found that the man had received no formal training in bosun's chairs, had little experience with them and had not been given fall protection training.

The coroner made many recommendations including that a hazard alert should be issued in the industry on the use of bosun's chairs. The Worker's Compensation Board of B.C. responded by issuing a hazard alert to remind firms of risks in the use of bosun's chairs and their responsibilities in ensuring that workers are trained and supervised properly.

**Industrial (Mining)**

A coroner's inquiry was held into the death of a male who received fatal crush injuries as he was performing his duties as a blast hole driller at a mining site.

The coroner made recommendations concerning updating regulations with respect to working below or around backfill.

The Ministry of Energy Mines responded that the Health, Safety and Reclamation Code for Mines in British Columbia will be reviewed to incorporate the change requested by the coroner.

## Research

A variety of agencies use data from coroner's files in a collective review of deaths in certain categories that can be useful in provincial and/or federal accident, suicide and injury prevention strategies These agencies are vetted by the Coroners' Service and must sign a research agreement, which ensures security and confidentiality. Those agencies use coroner's information in their own injury/death prevention strategies.

**Red Cross**

The Canadian Red Cross and The Royal Life Saving Society Canada have combined efforts to work with communities across BC and the Yukon to reduce the number of water-related fatalities and injuries. These agencies produce a joint provincial summary of drownings in BC and the Yukon. The coroners' files provide the necessary data to allow these agencies to fulfil their role in educating the public, and reducing injuries and death due to drowning.

**Traffic Injury Research Foundation**

The Traffic Injury Research Foundation of Canada (TIRF) has used coroners' files to compile data on alcohol-use related to motor vehicle fatalities since 1974. A fatality database is maintained for all provinces across Canada. This database provides a comprehensive source of objective data on alcohol use among persons fatally injured in motor vehicle accidents. This database provides a means of monitoring changes and trends and is a valuable tool for research on alcohol-impaired driving.

**The University of British Columbia - Mental Health Evaluation & Community Consultation Unit (MHECCU)**

The MHECCU, at the University of British Columbia, and the Coroners' Service have a partnership which supports the development and maintenance of a provincial database on suicide occurrences. The MHECCU program provides provincial leadership, information/research findings and consultation and support to community partners throughout the province. Its goal is to facilitate the development of a comprehensive approach to youth suicide prevention.

Each coroner completes a summary form on a reported suicide in B.C. and this information is consolidated and maintained in a provincial database by the MHECCU program. Periodic reports that summarize the psychosocial information for all completed suicides in B.C. is distributed to key individuals and agencies working in the area of suicide prevention in B.C. Up-to-date reliable information about the nature of and the circumstances surrounding suicides is essential to good prevention planning and programs.

**Underwater Council of British Columbia**

The Underwater Council of British Columbia is dedicated to furthering safe diving practices. The Council undertakes to review all coroners' diving files on a yearly basis to produce a Recreational Diving Fatalities report, which summarizes circumstances and recommendations on diving deaths. This report is an invaluable reference for scuba instructors, educators and concerned scuba enthusiasts.

**Canadian Agricultural Injury Surveillance Program**

The Canadian Agricultural Injury Surveillance Program collects and interprets information on agricultural injury across Canada. This agency reviews all cases identified by the coroner as 'farm' related and abstract data from the files. The results are combined with data from other provinces to form the National Registry of Farm Fatalities. A final report is produced which summarizes risks, trends, and other patterns among farm fatalities and provides farm safety specialists with an objective basis to develop and target farm safety programs in B.C.

**Health Canada - First Nations and Inuit Health Branch**

Health Canada recently conducted a review of aboriginal death records held at the coroner's office. External causes of death (intentional and unintentional injuries) are the most frequent category of death for First Nations people in British Columbia and Canada. While current data provides general mortality demographics, it does not provide details on pre-injury risk factors that would be crucial in making an impact on health issues. A better understanding of these pre-injury risk factors would help policy makers develop evidence based policy and interventions.

## Coroners' Act & Notification Requirement

Section 9 of the *Coroner's Act* states the requirement for reporting a death to the coroner. This section of the *Act* requires that a person shall immediately notify a coroner or a peace officer of the facts and circumstances relating to a death where he/she has reason to believe that a person has died under circumstances where an investigation may be required. The *Act* specifically requires the reporting of violent, unexplained or sudden/unexpected deaths; deaths in custody; and deaths of persons to whom the Mental Health Act applies.

The Coroners' Service is responsible for the investigation of all reported deaths to determine the identity of the deceased and the facts as to when, where and by what means the deceased came to his/her death.

The scope of the coroner's investigation has broadened over the years. Previously, the major emphasis was directed towards the investigation of the actual medical cause of death to the exclusion of practically all other aspects. Now, the medical cause of death is only one of many factors to be considered. The non-medical factors causing death are often equally important.

When a death is reported the coroner focuses on who the deceased was and when, where and by what means death occurred. The coroner has extensive authority to collect information, conduct interviews and seize documents or other materials. The coroner may also use information received from other agencies such as the Workers' Compensation Board in industrial related deaths or from the local police regarding deaths that may be crime related. The coroner and the police will work closely together when crime is a factor in a reported death.

## New Legislative Amendments

There were several legislative amendments to the *Coroner's Act* in 1999/2000. These amendments:

- Repealed the S. 9(2) (a)(i) provisions requiring that all deaths in community care facilities be reported to the coroner. It is no longer a requirement that all deaths that occur in a community care facility be reported to a coroner. All deaths must now be reported to the community care licensing authorities. All sudden and unexpected deaths must still be reported to a coroner.

- Eliminated the mandatory Section 10 requirement for an inquest in all custodial deaths and allowing discretion to proceed with an inquest in these circumstances. It is no longer a requirement under Section 10 that all deaths that occur in custody have a mandatory inquest. An inquest is now mandatory only for deaths that occur in a police prison or lockup or while in the actual custody of a police officer. A Judgment of Inquiry can now conclude natural deaths that occur in a correctional facility. It remains mandatory to report all custodial deaths.

- Formally provided a coroner with the power to make an exhumation during an investigation. A coroner now has the statutory power under Section 15 to enter a cemetery and disinter a body. Prior to the amendment, exhumation power was derived only from common law practice.

- Provided the Chief Coroner with discretionary powers to re-open an investigation after final completion of an inquiry. Under Section 20, the Chief Coroner may now order an inquiry re-opened, but can only do so if there is new evidence that is substantial and material. Previously, only the Attorney General had the power to order a new inquiry.

- Defined a "spouse" as a person who was (a) married to the deceased, or (b) was living and cohabiting with the deceased in a marriage-like relationship, including a marriage-like relationship between persons of the same gender.

## Statistical Summary of Deaths

### Statistical Reporting

The Coroner's case management system, CCMS, is an on-line Oracle database that maintains information on all reported deaths in British Columbia. The database contains information that is critical to death prevention efforts.

CCMS was developed in 1992 to assist in tracking and summarizing case information, and is utilized for two main purposes, to facilitate enquiries and for statistical reporting of deaths. This statistical reporting allows the Coroner's Service to identify problem areas relating to causal factors and to correlate evidence to support recommendations to prevent future deaths. This statistical reporting is accomplished by the use of a coding system, which is based on definitions adopted from the World Health Organization's, International Classification of Diseases.

**Cause of Death Codes**

The primary definitions consist of the CAUSE OF DEATH and the MEANS OF DEATH:

"CAUSES OF DEATH are all those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced the injuries"

The " UNDERLYING CAUSE OF DEATH OR MEANS OF DEATH is (a) the disease or injury which initiated the train of events leading directly to death or (b) the circumstances of the accident or violence which produced the fatal injury."

It is vital to capture the precipitating event or Means of Death to provide researchers working on death prevention with meaningful research data.

**Vital Statistics**

The Vital Statistics Act requires that a coroner or physician provide a Medical Certificate of Death for each death in British Columbia. The certificate is filed with a District Registrar of Births, Deaths & Marriages within 48 hours of the death. The funeral director, or person acting as such, is required to complete the Registration of Death, collect the Medical Certificate of Death and file both with the District Registrar. If the cause of death cannot be determined within the time required, the coroner provides a provisional certificate that is later updated with the appropriate cause of death information.

Besides requiring this information for official records, the Division of Vital Statistics Research Branch utilizes mortality data for various aspects of health planning and education. It provides valuable information to health care researchers, planners and providers alike.

## Classifications of Death

As of October 1993, all deaths reported to and investigated by the Coroners' Service have been classified, for statistical purposes, into the following five categories:

1. A **Natural** death is one primarily resulting from a disease of the body and not resulting secondarily from injuries or abnormal environmental factors
2. An **Accident** is a death due to unintentional or unexpected injury. It includes death resulting from complications reasonably attributed to the accident.
3. A **Suicide** is a death resulting from self inflicted injury, with intent to cause death.
4. A **Homicide** is a death due to injury intentionally inflicted by the action of another person. Homicide is a neutral term that does not imply fault or blame.
5. An **Undetermined** death is defined as one that, because of insufficient evidence or inability to otherwise determine, cannot reasonably be classified as natural, accidental, suicide or homicide.

The Coroners' Service maintains a separate category, referred to as a **Non Coroners Case**. A Non Coroners Case is a natural death where none of the criteria of Section 9 of the *Coroners' Act* are met. Following a brief investigation, the coroner may conclude the case if a doctor has signed the Medical Certificate of Death. The coroner may also sign the Medical Certificate of Death if he or she is satisfied that the death is natural and consistent with known medical history.

# CASELOAD STATISTICS (2000)

## Total Cases (2000)

| Manner of Death | Total Cases |
|---|---|
| Accident | 1243 |
| Homicide | 83 |
| Natural | 1210 |
| Non-coroners' | 3454 |
| Suicide | 476 |
| Undetermined | 127 |
| **Total** | **6593** |

## Regional Distribution (2000)

| | Accident | Homicide | Natural | Non-coroners' | Suicide | Undetermined |
|---|---|---|---|---|---|---|
| Fraser Valley | 126 | 6 | 136 | 381 | 38 | 18 |
| Kamloops | 209 | 7 | 186 | 358 | 52 | 14 |
| Kelowna | 111 | 3 | 97 | 334 | 43 | 4 |
| Lower Mainland | 184 | 22 | 212 | 745 | 82 | 23 |
| Nanaimo | 95 | 3 | 125 | 302 | 45 | 15 |
| Prince George | 145 | 13 | 111 | 250 | 41 | 19 |
| Vancouver Metro | 243 | 19 | 237 | 620 | 110 | 30 |
| Victoria | 130 | 10 | 106 | 464 | 65 | 4 |
| **Total** | **1243** | **83** | **1210** | **3454** | **476** | **127** |

## Regional Caseload Review (1995-2000)

| | 2000 * | 1999 | 1998 | 1997 | 1996 | 1995 |
|---|---|---|---|---|---|---|
| Fraser Valley | 705 | 1001 | 1047 | 1081 | 776 | 726 |
| Kamloops | 826 | 981 | 972 | 1062 | 1063 | 1051 |
| Kelowna | 592 | 887 | 1063 | 1082 | 1014 | 987 |
| Lower Mainland | 1268 | 1707 | 1936 | 1933 | 2378 | 2009 |
| Nanaimo | 585 | 708 | 799 | 758 | 881 | 851 |
| Prince George | 579 | 676 | 695 | 626 | 694 | 693 |
| Vancouver Metro | 1259 | 1888 | 2053 | 1941 | 1962 | 1914 |
| Victoria | 779 | 1158 | 1069 | 1097 | 1132 | 1122 |
| **Total** | **6593** | **9006** | **9634** | **9580** | **9900** | **9353** |

* An amendment to the coroner's Act, no longer requiring all deaths in Community Care Facilities to be reported to a coroner, has resulted in a decrease in the number of natural, expected deaths reported to the coroner's service.

# ACCIDENTAL DEATHS (2000)

## Recreational

| | |
|---|---|
| **AIR** | |
| Hang Glider | 2 |
| Ultra-light Aircraft | 2 |
| **LAND** | |
| Golf Course | 1 |
| Hiking/Climbing | 5 |
| Hunting | 1 |
| Street Biking (No MVA) | 1 |
| **MOTORIZED** | |
| Motorcycling/Off road-ATV | 5 |
| Power Boating | 9 |
| **SNOW** | |
| Heliskiing | 1 |
| Snowboarding | 4 |
| Snowmobiling | 4 |
| Snowskiing | 2 |
| **WATER** | |
| Canoe | 2 |
| Diving | 3 |
| Fishing | 14 |
| Inner tube | 1 |
| Kayak | 2 |
| Scuba Diving | 4 |
| Swimming | 12 |
| **OTHER** | |
| Hot Tub | 3 |
| Public Park | 2 |
| Recreation: other | 11 |

## Occupational

| | |
|---|---|
| Commercial Hunting/Fish/Trap | 2 |
| Commercial Scuba Diving | 1 |
| Construction Site: Residential | 2 |
| Construction Sites - other | 1 |
| Excavating/Paving/Grading | 1 |
| Forestry Sites | 10 |
| Industrial | 8 |
| Industrial - Material Hand. | 1 |
| Mine, Quarry, or Oil/Gas | 2 |
| Movie Industry (Locations) | 4 |
| Other Place of Work | 12 |
| Railway Sites | 2 |
| School/University | 1 |

## Other Accidents

| | |
|---|---|
| Motor Vehicle | 417 |
| Alcohol/Drug Poisoning | 329 |
| Fall | 171 |
| Other | 34 |
| Drowning ** | 24 |
| Airway Obstruction | 32 |
| Fire | 16 |
| Air Crash | 20 |
| Exposure | 15 |
| Carbon Monoxide Poisoning | 21 |
| Explosion | 1 |
| Farm | 8 |
| Firearms | 2 |
| Railway | 6 |
| Non-Traffic (on driveway etc.) | 5 |
| Pedal Cyclist | 1 |
| Unclassified (represents cases in which the cause of death has not yet been finalized) | 3 |

(** Does not include drownings indicated in recreational category - i.e. swimming )

# ACCIDENTAL MOTOR VEHICLE ACCIDENTS (2000)

## By Victim Type

| | |
|---|---|
| **Driver** | 195 |
| **Driver Commercial Vehicle** | 18 |
| **Passenger** | 104 |
| **Passenger Commercial Vehicle** | 6 |
| **Motorcyclist** | 29 |
| **Pedestrian** | 60 |
| **Pedal Cyclist** | 3 |
| **MVA/Rail** | 1 |
| **Other** | 1 |
| **Total** | **417** |

## Regional Distribution

| | Fraser Valley | Kamloops | Kelowna | Lower Mainland | Nanaimo | Prince George | Vancouver Metro | Victoria |
|---|---|---|---|---|---|---|---|---|
| **Driver** | 24 | 51 | 24 | 17 | 13 | 37 | 18 | 11 |
| **Driver Commercial Vehicle** | 4 | 6 | 1 | 1 | - | 4 | - | 2 |
| **Passenger** | 11 | 34 | 10 | 15 | 8 | 19 | 6 | 1 |
| **Passenger Commercial Vehicle** | - | 5 | 1 | - | - | - | - | - |
| **Motorcyclist** | 5 | 4 | 3 | 5 | - | 3 | 4 | 5 |
| **Pedestrian** | 1 | 5 | 6 | 20 | 4 | 3 | 17 | 4 |
| **Pedal Cyclist** | - | 1 | - | 1 | - | - | 1 | - |
| **MVA/Rail** | 1 | - | - | - | - | - | - | - |
| **Other** | - | - | 1 | - | - | - | - | - |
| **Total** | **46** | **106** | **46** | **59** | **25** | **66** | **46** | **23** |

# CHILD DEATH REVIEW (Ages 0-18 yrs)

## Total Cases Reported, 1996-2000

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| **Accident** | 101 | 109 | 93 | 109 | 112 |
| **Homicide** | 12 | 9 | 4 | 21 | 15 |
| **Natural** | 33 | 55 | 50 | 67 | 77 |
| **Non-coroners'** | 35 | 46 | 45 | 50 | 50 |
| **Suicide** | 30 | 22 | 17 | 29 | 15 |
| **Undetermined** | 15 | 11 | 12 | 10 | 8 |
| **Total** | **226** | **252** | **221** | **286** | **277** |

## Age Distribution

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| **0 - 11 Months** | 54 | 76 | 68 | 89 | 99 |
| **01 - 04** | 19 | 29 | 28 | 31 | 28 |
| **05 - 09** | 12 | 16 | 21 | 31 | 26 |
| **10 - 14** | 25 | 35 | 27 | 34 | 34 |
| **15 - 18** | 116 | 96 | 77 | 101 | 90 |
| **Total** | **226** | **252** | **221** | **286** | **277** |

## Accidental Child Deaths by Means of Death

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| **Motor Vehicle** | 58 | 66 | 50 | 61 | 60 |
| **Drowning** | 15 | 14 | 13 | 11 | 16 |
| **Airway Obstruction** | 2 | 7 | 3 | 5 | 5 |
| **Falls** | 3 | - | 2 | 5 | 4 |
| **Alcohol/Drug Poisoning** | 4 | 4 | 4 | 4 | 8 |
| **Fire** | 7 | 1 | 5 | 2 | 2 |
| **Air** | - | 2 | 1 | - | 1 |
| **Other** | 12 | 17 | 16 | 21 | 17 |
| **Total** | **101** | **109** | **93** | **109** | **112** |

# SUDDEN INFANT DEATH SYNDROME

## Sudden Infant Death,10-Year Review (1990-2000)

| Case Year | Total |
|---|---|
| 1991 | 78 |
| 1992 | 64 |
| 1993 | 50 |
| 1994 | 40 |
| 1995 | 50 |
| 1996 | 25 |
| 1997 | 25 |
| 1998 | 16 |
| 1999 | 13 |
| 2000 | 7 |

## Sudden Infant Death (Regional Distribution)

| | 2000 | 1999 | 1998 | 1997 | 1996 | 1995 | 1994 | 1993 | 1992 | 1991 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fraser Valley | 1 | 1 | 2 | 1 | 1 | 5 | 3 | - | 8 | 5 |
| Kamloops | - | 1 | 2 | 1 | 2 | 6 | 4 | 5 | 2 | 8 |
| Kelowna | - | 1 | 2 | 1 | - | 3 | 1 | 2 | 5 | 4 |
| Lower Mainland | 4 | 2 | 2 | 7 | 8 | 9 | 13 | 12 | 11 | 23 |
| Nanaimo | - | 2 | 3 | 4 | 5 | 8 | 8 | 9 | 11 | 7 |
| Prince George | 1 | 2 | 2 | 4 | 3 | 9 | 3 | 11 | 6 | 14 |
| Vancouver Metro | 1 | 1 | 1 | 3 | 2 | 4 | 4 | 5 | 15 | 11 |
| Victoria | - | 3 | 2 | 4 | 4 | 6 | 4 | 6 | 6 | 6 |
| Total | 7 | 13 | 16 | 25 | 25 | 50 | 40 | 50 | 64 | 78 |

# SUICIDES

## B.C Suicide Rates per 100,000

| Case Year | Total | Rate per 100,000 |
|---|---|---|
| 2000 | 476 | 11.7 |
| 1999 | 498 | 12.4 |
| 1998 | 508 | 12.7 |
| 1997 | 583 | 14.7 |
| 1996 | 557 | 14.3 |
| 1995 | 534 | 14.2 |
| 1994 | 513 | 14.0 |
| 1993 | 492 | 13.8 |
| 1992 | 514 | 14.8 |
| 1991 | 489 | 14.5 |
| 1990 | 426 | 12.9 |
| 1989 | 489 | 15.3 |
| 1988 | 456 | 14.6 |
| 1987 | 459 | 15.0 |
| 1986 | 483 | 16.0 |

## B.C. Five-Year Suicide Review

### Age

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| 12 and Under | 1 | - | - | 3 | 1 |
| 13-19 | 34 | 23 | 22 | 37 | 18 |
| 20-29 | 84 | 68 | 74 | 95 | 91 |
| 30-39 | 92 | 107 | 107 | 129 | 129 |
| 40-49 | 100 | 113 | 130 | 128 | 125 |
| 50-59 | 71 | 88 | 77 | 80 | 71 |
| 60-69 | 42 | 40 | 42 | 49 | 56 |
| 70-79 | 31 | 36 | 31 | 39 | 37 |
| 80 and Over | 20 | 23 | 24 | 23 | 29 |
| Age Unknown | 1 | - | 1 | - | - |
| **Total** | **476** | **498** | **508** | **583** | **557** |

## B.C. Five-Year Suicide Review cont'd

### Gender

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| Female | 123 | 102 | 115 | 124 | 129 |
| Male | 353 | 396 | 393 | 459 | 428 |
| **Total** | **476** | **498** | **508** | **583** | **557** |

### Region

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| Fraser Valley | 38 | 44 | 45 | 49 | 53 |
| Kamloops | 52 | 52 | 58 | 67 | 59 |
| Kelowna | 43 | 42 | 40 | 50 | 44 |
| Lower Mainland | 82 | 90 | 95 | 110 | 107 |
| Nanaimo | 45 | 53 | 55 | 59 | 69 |
| Prince George | 41 | 51 | 41 | 52 | 39 |
| Vancouver Metro | 110 | 109 | 113 | 133 | 129 |
| Victoria | 65 | 57 | 61 | 63 | 57 |
| **Total** | **476** | **498** | **508** | **583** | **557** |

### Suicides by Method of Death

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| Airway Obstruction | 158 | 168 | 154 | 179 | 165 |
| Carbon Monoxide | 50 | 53 | 72 | 58 | 77 |
| Drowning | 21 | 16 | 21 | 26 | 28 |
| Falls | 36 | 26 | 23 | 43 | 39 |
| Firearms | 78 | 115 | 102 | 134 | 110 |
| Incised Injuries | 6 | 6 | 9 | 13 | 8 |
| Other | 33 | 20 | 13 | 23 | 20 |
| Poisoning | 89 | 93 | 112 | 104 | 110 |
| Unclassified | 5 | 1 | 2 | 3 | - |
| **Total** | **476** | **498** | **508** | **583** | **557** |

# ILLICIT DRUG DEATHS

This table represents the number of non-therapeutic (illicit) drug deaths in B.C. where the cause of death was due to or a consequence of an illicit drug overdose. This category includes cocaine, heroin and illicitly purchased methadone. This table does not include cases where illicit drugs may have contributed to but were not the cause of death.

## B.C. Illicit Drug Deaths

| Year | Total | Year | Total | Year | Total |
|---|---|---|---|---|---|
| 1988 | 39 | 1993 | 361 | 1998 | 417 |
| 1989 | 67 | 1994 | 317 | 1999 | 277 |
| 1990 | 82 | 1995 | 224 | 2000 | 251 |
| 1991 | 124 | 1996 | 312 | | |
| 1992 | 164 | 1997 | 310 | | |

| **REGION** | **2000** | **1999** | **1998** | **1997** | **1996** |
|---|---|---|---|---|---|
| Fraser Valley | 26 | 19 | 27 | 23 | 13 |
| Kamloops | 13 | 7 | 22 | 11 | 12 |
| Kelowna | 11 | 8 | 14 | 6 | 7 |
| Lower Mainland | 54 | 71 | 77 | 67 | 62 |
| Nanaimo | 19 | 15 | 30 | 23 | 18 |
| Prince George | 11 | 8 | 20 | 12 | 13 |
| Vancouver Metro | 96 | 116 | 199 | 148 | 163 |
| Victoria | 21 | 33 | 28 | 20 | 24 |
| **Yearly Total** | **251** | **277** | **417** | **310** | **312** |
| **GENDER** | | | | | |
| Female | 44 | 49 | 74 | 44 | 57 |
| Male | 207 | 228 | 343 | 266 | 255 |
| **Total** | **251** | **277** | **417** | **310** | **312** |
| **AGE** | | | | | |
| 20 and Under | 7 | 10 | 12 | 6 | 16 |
| 21-30 | 39 | 49 | 73 | 61 | 77 |
| 31-40 | 103 | 111 | 173 | 141 | 130 |
| 41-50 | 73 | 82 | 122 | 81 | 74 |
| 51-60 | 28 | 24 | 35 | 17 | 11 |
| Over 60 | 1 | 1 | 2 | 4 | 4 |
| **Total** | **251** | **277** | **417** | **310** | **312** |

# INQUEST STATISTICS (2000)

| **Classification of Death** | |
|---|---|
| Natural | 1 |
| Accident | 6 |
| Suicide | 2 |
| Homicide | 4 |
| Undetermined | 2 |

| **Type of Death** | |
|---|---|
| Police Custody/Lockup | |
| Federal Correctional Facility | 4 |
| Police Cell Lock-up | 2 |
| Police Custody | 5 |
| Police Shooting | 1 |
| Police Chase | 1 |
| Medical | 2 |
| TOTAL | 15 |
| **Total # of Days** | **23** |

These 15 inquests resulted in a total of approximately 200 recommendations, addressing a variety of issues:

**Correctional Facility - Palliative Care**

The deaths of two men in palliative care resulted in two separate inquests, which looked at the issues of palliative care in Correctional Facilities. The jury made seven recommendations.

**Midwifery**

An inquest was held into the death of an infant who was delivered during a home birth in the company of trained midwives. The Inquest explored all the circumstances surrounding the death and the jury submitted ten recommendations including training for midwives and the interface between emergency attendants and midwifes.

**Police Restraint**

In 2000, the B.C. Coroners' service conducted four separate inquests into sudden death during physical restraint by police. In all of the cases, the subjects were restrained by police with either handcuffs or leg restraints. The subjects then suffered from cardiac arrest. In all four cases, drugs were considered contributory to the death. The juries made a total of 17 recommendations.